Index

to Authors, key words in titles and to new taxa and new stratigraphical terms in Volume 122; (R) indicates Review

Accretion, 5; (R) 207
Acritarchs (R), 572
Aeolian Processes (R), 578
Africa (R), 309, (R) 310
Algae (R), 93
Amajor, L. C. The Cenomanian hiatus in the Southern Benue Trough, Nigeria, 39
Ammonoids (R), 206
An Cumhann, 361
Anderson, H. J. Gravity modelling of the lherzolite body at Lers (French Pyrenees); some regional implications, 51
Antarctica, 5, 351; (R) 306
Applied Environmental Geochemistry (R), 672
Aristarchus crater, 317
Arran, 361
Ash-flow tuff, 139, 175
Assynt, southern, 595
Asteroid, 351
Atlantic Ocean Floor (R), 205
Atmosphere (R), 404
Australia, 587; (R) 86, (R) 572

Basalts, 419, 439
Basin and Range (R), 410
Beerbachites, 663
Benue Trough, 39
Billefjorden Group, 383
Biostratigraphy (R), 406, (R) 571
Brachiopoda, (R) 571
Brown, G. M. Introduction to the special issue on the evolution of the Rhum igneous complex, 415
Brunei (R), 304
Burgess, L. A. & Spray, J. G. Landsat MSS imagery applied to geological investigation of the Norseman area granitoid–greenstone terrain, southeast Yilgarn Block, Western Australia, 587
Butcher, A. R. Channelled metasomatism in Rhum layered cumulates – evidence from late-stage veins, 503
Butcher, A. R., Young, I. M. & Faithfull, J. W. Finger structures in the Rhum Complex, 491
Butler, R. W. H. Thrust tectonics: a personal view, 223

California (R), 409
Campbell, S. D. G., Howells, M. F. & Reedman, A. J. Isolated pods of subaqueous welded ash-flow tuff: a distal facies of the Capel Curig Volcanic Formation (Ordovician), North Wales, 175
Canada (R), 312
Canary Islands, 623
Capel Curig Volcanic Formation, 175
Carbonates (R), 93
Carboniferous, 383; (R) 406
Cenomanian, 39
Ceramics (R), 214, (R) 305
Cetacea, General Features of the Palaeobiological Evolution of (R), 669
Channelled metasomatism, 503
Charlaix, E., Rivier, N. & Guyon, E. A geometrical approach to percolation through random fractured rocks, 157
Cheeney, R. F. Pattern recognition and pattern analysis (Essay Review), 203
Chemical Evolution (R), 404
Chemistry, 641
Chromite band, 539
Chroston, P. N. A seismic refraction line across Norfolk, 397
Cnapan Breaca, 447
Coal (R), 88
Coal Geology and Coal Technology (R), 669
Coastal Initiative, California (R), 409
Coastal Processes (R), 307
Composite intrusion, 361
Continental Crust (R), 673
Conway Morris, S. The Ediacaran biota and early metazoan evolution, (Essay Review) 77
Coward, M. P. The thrust structures of southern Assynt, Moine thrust zone, 595
Creep of Crystals (R), 579
Cretaceous, 39
Crustal growth, 5
Crust, Continental, (R) 673
Cruziona, 65
Cryptograptus tricornis (Carruthers), 151
Czechoslovakia (R), 209

Data Interpretation (R), 203
Dean, W. T. & Monod, O. A new interpretation of Ordovician stratigraphy in the Bahçe area, northern Amanos Mountains, south central Turkey, 15
Delorme Formation (R), 571
Didymograptus hirundo Salter, 197
Differentiation, 335
Dolomite, 279
Dominica, 253
Donaldson, C. H. & Young, I. M. Formation of granular textured layers and laminae within the Rhum crystal pile, 519
Dumican, L. W. & Rickards, R. B. Graptolite ultrastructure: evolution of descrip[illegible] and conceptual terminology, 125
Dunham, A. C. & Wilkinson, F. C. F. Sulphide droplets and Unit 11/12 chromite band, Rhum: a mineralogical study, 539

Earth History (R), 309
Earthquake Forecasting (R), 205
Eastern Layered Series, 459, 469, 485, 503, 519
Ediacaran biota (Essay Review), 77
Ejecta, 317
Emeleus, C. H. The Tertiary lavas and sediments of northwest Rhum, Inner Hebrides, 419
Emeleus, C. H., Wadsworth, W. J. & Smith, N. J. The early igneous and tectonic history of the Rhum Tertiary Volcanic Centre, 451
Energy (R), 307
England, 181, 261, 279, 287, 329, 389
Environmental Geochemistry (R), 672
Equilibrium (R), 86
Equilibrium Activity Diagrams (R), 578
Erratics, 297
Eruption, 623

Eruptive mechanisms, 649
Evolution, (Essay Review) 77; (R) 94, (R) 309, (R) 404, (R) 575
Extension, 5, 27
External detector method, 73, 191, 195
Extinctions, mass, 1

Facies variation, 139
Faithfull, J. W. The Lower Eastern Layered Series of Rhum, 459
Faithfull, J. W., Butcher, A. R. & Young, I. M. Finger structures in the Rhum Complex, 491
Faults, 249, 439, 447, 451; (R) 571
Felsite, 447
Field Description (R), 671
Finger structures, 491
Fission track dating, 73, 191, 195
Fitch, F. J., Hooker, P. J., Miller, J. A., Mitchell, J. G. & Watkins, R. T. Reconnaissance potassium–argon geochronology of the Suregei–Asille district, northern Kenya, 609
Fluid dynamics, 469, 555
Fractured rocks, 157
Freetown, 663

Gale, N. H. Comments on the letter 'In defence of the external detector method of fission track dating' by P. F. Green, 191
Garrett, S. W. & Storey, B. C. Crustal growth of the Antarctic Peninsula by accretion, magmatism and extension, 5
Geochemistry, 163, 335, 389, 469, 485; (R) 211, (R) 213, (R) 672
Geochronology, 609; (R) 309
Geological Walks (R), 410
Geology Today (R), 303
Geomechanics (R), 577
Geometry of fractures, 157
Geomorphological Techniques (R), 91, (R) 213
Geomorphology (R), 91, (R) 206, (R) 303, (R) 307, (R) 575
Ghiold, J. & Hoffman, A. Randomness in the pattern of 'mass extinctions' and 'waves of origination', 1
Gibb, F. G. F. & Kanaris-Sotiriou, R. Hybridization and the petrogenesis of composite intrusions: the dyke at An Cumhann, Isle of Arran, Scotland, 361
Glaciers (R), 310
Glasses (R), 214
Glomar Challenger (R), 405
Gold (R), 213
Goldring, R. The formation of the trace fossil *Cruziana*, 65
Gower, 297
Granite, 163, 297
Granitoid–greenstone terrain, 587
Graptolites, 125, 151, 197, 329
Gravity modelling, 51
Green, P. F. In defence of the external detector method of fission track dating, 73
Groundwater (R), 91
Guest, J. E. & Spudis, P. D. The Aristarchus impact event and the effects of target material, 317
Guyon, E., Rivier, N. & Charlaix, E. A geometrical approach to percolation through random fractured rocks, 157

History of Geology (R), 214, (R) 217
Hoffman, A. & Ghiold, J. Randomness in the pattern of 'mass extinctions' and 'waves of origination', 1
Hooker, P. J., Fitch, F. J., Miller, J. A., Mitchell, J. G. & Watkins, R. T. Reconnaissance potassium–argon geochronology of the Suregei–Asille district, northern Kenya, 609
Howells, M. F., Campbell, S. D. G. & Reedman, A. J. Isolated pods of subaqueous welded ash-flow tuff; a distal facies of the Capel Curig Volcanic Formation (Ordovician), North Wales, 175
Huppert, H. E., Sparks, R. S. J., Kerr, R. C., McKenzie, D. P. & Tait, S. R. Postcumulus processes in layered intrusions, 555
Hybridization, 361
Hydraulics (R), 209
Hydrology (R), 209, (R) 218
Hyllingh Series, 97

Iceland, 649
Igneous rocks, 641; (R) 671
Imeokparia, E. G. Geochemical evolution of the Jarawa Younger Granite complex and its related mineralization, northern Nigeria, 163
India (R), 304
Interactive processing, 57
Introduction, 415
Invertebrate Macrofossils (R), 573
Isostasy (R), 307
Isotope Hydrology (R), 218
Isotopic composition, 485

Jan Mayen (R), 577
Jarawa Younger Granite, 163
Jet Rock, 279
Jurassic, 233, 279, 351

Kanaris-Sotiriou, R. & Gibb, F. G. F. Hybridization and the petrogenesis of composite intrusions: the dyke at An Cumhann, Isle of Arran, Scotland, 361
Keen, D. H. Late Pleistocene deposits and Mollusca from Portland, Dorset, 181
Kemp, A. E. S. & White, D. E. Silurian trench sedimentation in the Southern Uplands, Scotland: implications of new age data, 275
Kenya, 139, 609
Kerr, R. C., Sparks, R. S. J., Huppert, H. E., McKenzie, D. P. & Tait, S. R. Postcumulus processes in layered intrusions, 555
Kitchen, D. E. The parental magma on Rhum: evidence from alkaline segregations and veins in the peridotites from Salisbury's Dam, 529
Korea (R), 93

Lake District, 329
Laminae, igneous, 519
Lancefieldian Stage, 329
Landsat imagery, 587
Larsen, S. B. & Wilson, J. R. Two-dimensional study of a layered intrusion – the Hyllingen Series, Norway, 97
Late Pleistocene (R), 669
Lavas, 419
Layered intrusion, 97, 335, 415, 459, 469, 485, 491, 503, 519, 529, 539, 549, 555
Leat, P. T. Facies variations in peralkaline ash-flow tuffs from the Kenya Rift Valley, 139
Legality (R), 88
Lherzolite, 51
Libya, 233
Limestones, 439

Lisle, R. J. The facing of faults, 249
Lithostratigraphy, 287
London (R), 410
Lower Eastern Layered Series, 459
Lynas, B. D. T., Rundle, C. C. & Sanderson, R. W. A note on the age and pyroxene chemistry of the igneous rocks of the Shelve Inlier, Welsh Borderland, 641

Macdonald, R. & Thorpe, R. S. Geochemical evidence for the emplacement of the Whin Sill complex of northern England, 389
Magma, 623
Magnetic Field (R), 308
Main Ring Fault, 439, 451
Mammals (R), 94
Mapping (R), 214
Marine Geology (R), 93, (R) 205
Martin, D. J. Microstructure, geochemistry and differentiation of a primary layered teschenite sill, 335
Mathematics, Seismic (R), 576
Mathers, S. J. & Zalasiewicz, J. A. Lithostratigraphy of the Red and Norwich Crags of the Aldeburgh–Orford area, southeast Suffolk, 287
McKenzie, D. P., Sparks, R. S. J., Huppert, H. E., Kerr, R. C. & Tait, S. R. Postcumulus processes in layered intrusions, 555
Mediterranean, 373; (R) 405, (R) 575
Melts (R), 214
Mesozoic (R), 85
Metamorphic dykes, 27
Metasomatism, 491, 503
Meteorology (R), 673
Microfossils (R), 670
Micropalaeontology (R), 670
Miller, J. A., Fitch, F. J., Hooker, P. J., Mitchell, J. G. & Watkins, R. T. Reconnaissance potassium–argon geochronology of the Suregei–Asille district, northern Kenya, 609
Mineralization, 163; (R) 213
Mineralogy (R), 305
Minerals (R), 85
Mitchell, J. G., Fitch, R. J., Hooker, P. J., Miller, J. A. & Watkins, R. T. Reconnaissance potassium–argon geochronology of the Suregei–Asille district, northern Kenya, 609
Mixing, 623
Moine thrust zone, 595
Mollusca, 181, 373
Monod, O. & Dean, W. T. A new interpretation of Ordovician stratigraphy in the Bahçe area, northern Amanos Mountains, south central Turkey, 15
Moon, geology of, 317
Moore, J. G. Structure and eruptive mechanisms at Surtsey Volcano, Iceland, 649
Multivariate Analysis (R), 310

Negara Brunei Darussalam (R), 304
New Zealand (R), 303
Nigeria, 39, 163
Nisbet, E. G. The conceptual framework of Precambrian stratigraphy: a personal opinion (Essay Review), 82
Norfolk, 397
Norris, G. Palynology and British Purbeck, facies, 187
Norseman area, 587
North Atlantic Region (R), 569
North Sea (R), 90
Norway, 97
Norwich Crag, 287
Numerical Methods (R), 219

Oceanography (R), 86, (R) 93, (R) 306, (R) 404, (R) 576
Ordovician, 15, 175, 261, 329; (R) 403

Pacific (R), 207
Palacz, Z. A. & Tait, S. R. Isotopic and geochemical investigation of unit 10 from the Eastern Layered Series of the Rhum Intrusion, Northwest Scotland, 485
Palaeobiological Evolution (R), 669
Palaeoclimate (R), 307
Palaeoecology (R), 669
Palaeomagnetism, 383; (R) 308
Palaeozoic (R), 93
Palynology, 187
Pascal (R), 219
Pattern recognition (Essay Review), 203
Percolation, 157
Petrogenesis, 361
Petroleum Geology (R), 90, (R) 304, (R) 311
Pettijohn (R), 405
Phosphate (R), 85
Photogeology (R), 87
Physics, Planetary (R), 570
Pityusic Islands (R), 671
Planetary Interiors (R), 570
Planetary Meteorology (R), 673
Planetary Physics (R), 570
Pleistocene, 181, 287, 297
Polarization Method (R), 408
Portland, 181
Potassium–argon geochronology, 609
Postcumulus processes, 549, 555
Precambrian, (Essay Review) 77, (Essay Review) 82; (R) 93, (R) 304
Preface, 413
Protremaster, 351
Purbeck facies, 187
Pye, K. Electron microscope analysis of zoned dolomite rhombs in the Jet Rock Formation (Lower Toarcian) of the Whitby area, U.K., 279
Pyrenees, 51
Pyroclastic rocks, 139, 175, 447; (R) 216
Pyroxene chemistry, 641

Quaternary (R), 210, (R) 306, (R) 312

Radioactive Waste (R), 211
Raised beach, 297
Reconnaissance, 609
Red Crag, 287
Reedman, A. J., Howells, M. F. & Campbell, S. D. G. Isolated pods of subaqueous welded ash-flow tuff: a distal facies of the Capel Curig Volcanic Formation (Ordovician), North Wales, 175
Refraction, seismic, 397; (R) 403
Remote sensing, 587
Reversals, Magnetic Field (R), 215
Reymer, A. P. S. The origin and microstructures of metamorphic felsic dykes emplaced during brittle–ductile extension (southeast Sinai), 27
Rhum, 413, 415, 419, 439, 447, 451, 459, 469, 485, 491, 503, 519, 529, 539, 549, 555
Rhyl and Denbigh, Memoir (R), 579
Richards, G. W. Fossil Mediterranean molluscs as sea-level indicators, 373

Rickards, R. B. & Dumican, L. W. Graptolite ultrastructure: evolution of descriptive and conceptual terminology, 125
Rivier, N., Guyon, E. & Charlaix, E. A geometrical approach to percolation through random fractured rocks, 157
Rotation, of Earth (R), 212
Rothery, D. A. Interactive processing of satellite images for geological interpretation – a case study, 57
Rundle, C. C., Lynas, B. D. T. & Sanderson, R. W. A note on the age and Pyroxene chemistry of the igneous rocks of the Shelve Inlier, Welsh Borderland, 641
Rushton, A. W. A. A Lancefieldian graptolite from the Lake District, 329
Rushton, A. W. A. The type material of *Didymograptus hirundo* Salter, 197

Sanderson, R. W., Lynas, B. D. T. & Rundle, C. C. A note on the age and pyroxene chemistry of the igneous rocks of the Shelve Inlier, Welsh Borderland, 641
Satellite images, 57, 587
Scotland, 275, 361, 595
Scrope, George Poullett (R), 308
Sea-level indicators, 373
Seawater Analysis (R), 570
Sedgwick, Adam (R), 217
Sedimentary basin analysis, 233; (R) 216
Sedimentary petrology, 279
Sedimentary Rocks (R), 88
Seismic Data Processing (R), 576
Seismic exploration, 397, (Essay Review) 199; (R) 408
Seismic reflection, (Essay Review) 199
Seismic refraction, 397; (R) 403
SEM, 279
Shelve Inlier, 641
Shorelines (R), 307
Sierra Leone, 663
Silica-undersaturated alkaline magma, 623
Sill, 335, 389
Silurian, 261, 275
Sinai, 27
Smith, A. B. & Tranter, T. H. *Protremaster*, a new Lower Jurassic genus of asteroid from Antarctica, 351
Smith, N. J. The age and structural setting of limestones and basalts on the Main Ring Fault in southeast Rhum, 439
Smith, N. J., Emeleus, C. H. & Wadsworth, W. J. The early igneous and tectonic history of the Rhum Tertiary Volcanic Centre, 451
Soils (R), 89, (R) 208, (R) 307
Southern Uplands, 275
South Georgia (R), 312
Sparks, R. S. J. Preface to the special issue on the evolution of the Rhum igneous complex, 413
Sparks, R. S. J., Huppert, H. E., Kerr, R. C., McKenzie, D. P. & Tait, S. R. Postcumulus processes in layered intrusions, 555
Spitsbergen, 383
Spray, J. G. & Burgess, L. A. Landsat MSS imagery applied to geological investigation of the Norseman area granitoid–greenstone terrain, southeast Yilgarn Block, Western Australia, 587
Spudis, P. D. & Guest, J. E. The Aristarchus impact event and the effects of target material, 317
Statistical Techniques (R), 580
Storey, B. C. & Garrett, S. W. Crustal growth of the Antarctic Peninsula by accretion, magmatism and extension, 5
Storzer, D. & Wagner, G. A. Bias in the application of the external detector technique, 195
Strachan, I. The significance of the proximal end of *Cryptograptus tricornis* (Carruthers) (Graptolithina), 151
Strain (R), 90
Strain Analysis (R), 670
Stratigraphy, 287, (Essay Review) 82; (R) 209, (R) 312, (R) 572
Structural geology, 223, 249, 439; (R) 90, (R) 206, (R) 571, (R) 670
Structure mechanisms, 649
Sulphide Deposits (R), 311
Sulphide droplets, 539
Suregei–Asille district, 609
Surtsey Volcano, 649

Tait, S. R. Fluid dynamic and geochemical evolution of cyclic unit 10, Eastern Layered Series, 469
Tait, S. R. & Palacz, Z. A. Isotopic and geochemical investigation of unit 10 from the Eastern Layered Series of the Rhum Intrusion, Northwest Scotland, 485
Tait, S. R., Sparks, R. S. J., Huppert, H. E., Kerr, R. C. & McKenzie, D. P. Postcumulus processes in layered intrusions, 555
Taurus Belt (R), 577
Tectonics, 223, 451; (R) 207, (R) 569, (R) 571, (R) 577
Tenerife, 623
Terminology, of graptolites, 125; of postcumulus processes, 549
Tertiary, 419, 439, 451
Teschenite, 335
Thesaurus (R), 581
Thorpe, R. S. & Macdonald, R. Geochemical evidence for the emplacement of the Whin Sill complex of northern England, 389
Thrust structures, 595
Thrust tectonics, 223
Tides (R), 212, (R) 217
Time Scale (R), 206
Trace fossil, 65
Tranter, T. H. & Smith, A. B. *Protremaster*, a new Lower Jurassic genus of asteroid from Antarctica, 351
Trias (R), 206
Tunisia, 233
Turkey, 15

Umeji, A. C. On the beerbachites from Freetown, Sierra Leone, 663
United Kingdom, 175, 181, 187, 261, 275, 279, 287, 297
Unit 9, Rhum, 519
Unit 10, Rhum, 469, 485, 503
Units 11/12, Rhum, 539

Variscan (R), 569
Veins, 503
Volcano, 253, 649; (R) 577

Wadge, G. Morne Patates volcano, southern Dominica, Lesser Antilles, 253
Wadsworth, W. J. Terminology of postcumulus processes and products in the Rhum layered intrusion, 549
Wadsworth, W. J., Emeleus, C. H. & Smith, N. J. The early igneous and tectonic history of the Rhum Tertiary Volcanic Centre, 451
Wagner, G. A. & Storzer, D. Bias in the application of the external detector technique, 195
Wales, 175, 297

Walley, C. D. Depositional history of southern Tunisia and northwestern Libya in Mid and Later Jurassic time, 233
Watkins, R. T., Fitch, F. J., Hooker, P. J., Miller, J. A. & Mitchell, J. G. Reconnaissance potassium–argon geochronology of the Suregei–Asille district, northern Kenya, 609
Watts, D. R. Palaeomagnetism of the Lower Carboniferous Billefjorden Group, Spitsbergen, 383
Waves of origination, 1
Welsh Borderland, 641
Western Layered Series, 503
Whin Sill, 389
White, D. E. & Kemp, A. E. S. Silurian trench sedimentation in the Southern Uplands, Scotland: implications of new age data, 275
White, R. S. Seismic reflection profiling comes of age (Essay Review), 199
Wilkinson, F. C. F. & Dunham, A. C. Sulphide droplets and the Unit 11/12 chromite band, Rhum: a mineralogical study, 539
Williams, P. J. Pyroclastic rocks in the Cnapan Breaca felsite, Rhum, 447
Wilson, J. R. & Larsen, S. B. Two-dimensional study of a layered intrusion – the Hyllingen Series, Norway, 97
Wolff, J. A. Zonation, mixing and eruption of silica-undersaturated alkaline magma: a case study from Tenerife, Canary Islands, 623
Wright, A. D. The Ordovician–Silurian boundary at Keisley, northern England, 261

X-ray Analysis (R), 408

Yilgarn Block, 587
Young, I. M., Butcher, A. R. & Faithfull, J. W. Finger structures in the Rhum Complex, 491
Young, I. M. & Donaldson, C. H. Formation of granular textured layers and laminae within the Rhum crystal pile, 519

Zalasiewicz, J. A. & Mathers, S. J. Lithostratigraphy of the Red and Norwich Crags of the Aldeburgh–Orford area, southeast Suffolk, 287
Zonation, 623
Zürich, Lake (R), 306